

New Descriptions

Reptilia from Bhutan with description of a new species of *Calotes* Rafinesque¹

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There is little information on the Reptilian fauna of Bhutan because that country seldom, if ever, permitted Zoological Collection to be made there. Recently, however, this policy was changed and the Zoological Survey of India was allowed to undertake faunistic survey in Bhutan. While collecting bird, Dr. B. Biswas obtained five examples of reptiles during 1966 and 1967. The collection though small, is interesting indeed, inasmuch as it had a new species of the genus *Calotes*.

Family: AGAMIDAE

Japalura variegata Gray

1853. *Japalura variegata* Gray, Ann. Mag. Nat. Hist. (2) xii, p. 388.

Material: 1 ex., Batase (c. 1500 m), Central Bhutan, 19 Nov. 1967.

Remarks: The nuchal crest low, two folds of skin run by the sides of nuchal and dorsal crest; a strong oblique fold in front of the shoulder extending nearer throat. White stripes along the sides of neck narrow and faint; upper lip white marked with brown specks; light and dark faint annuli on tail; lower part of body white with brown blotches, prominent on thigh and legs. Series of chevron shaped stripes on the back corresponding the enlarged scales absent.

Measurement: Snout to vent 33 mm, tail 83 mm.

Calotes versicolor (Daudin)

1802. *Agama versicolor* Daudin, Hist. Nat. Rept. iii, p. 395, pl. xlix.

Material: 1 ex. Samdrup Jongkhar (c. 300 m), East Bhutan; 14 May, 1966.

Measurement: Length—snout to vent 93 mm, tail 243 mm.

¹ Accepted May 1973.

Calotes bhutanensis sp. nov.

Material: Holotype: Zoological Survey of India, Reg. No. 22480; Janjurmene (c. 1525 m), Central Bhutan; collected by B. Biswas; 7 Dec., 1967; Deposited in Zoological Survey of India.

Description: Length of head just less than one and half of its breadth; snout a little longer than the orbit; fore-head little concave; cheeks slightly swollen, upper optic region more convex and parietal region more or less straight when compared with *Calotes versicolor*. Upper head-scales unequal, not keeled but feebly rugosed; two well separated spines on each side of the back of the head above tympanum; canthus rostralis prominent and sharp; superciliary edge less sharp than *C. versicolor* and eye bulges out of the edge; breadth between two anterior eye corners more than the eye corner to the end of the snout, thus length of snout being short gives the appearance of snub-nosed or short snouted; 12 upper and 11 lower labials; diameter of tympanum less than half of the orbit; body compressed; dorsal scales keeled, roundly pointed backwards and upwards, almost equal to or slightly larger than the ventral scales which are strongly keeled and mucronate, 50 scales round the middle of body; no gular pouch but the throat inflatable, with some smaller and narrower scales in the middle than that of its surrounding; no fold or groove in front of the shoulder; nuchal and dorsal crests composed of angularly pointed scales (not lanciform or falciform) and decreasing gradually from behind neck towards posterior part of body; a row of scales composed of eight erect scales on sides of neck; limbs moderate, third and fourth fingers nearly equal, fourth toe longer than third.

Coloration in spirit: White above with black, transverse, wavy or variegated patches on the back and sides of body, dorsally these black patches together give the appearance of wavy lines. Four lines or stripes from sides of head on or below neck, 1st from sides of temporal region meet on the neck like V, 2nd from above tympanum on neck, 3rd from just below eye through tympanum on the side of neck, 4th from upper jaw to the arm. From lower jaw four lines run on the throat and chin. Ventral side white with longitudinal faint blackish lines, but one line along the middle of ventral side up to base of tail more prominent, then continues under the tail being interrupted at regular intervals.

Remarks: In respect of certain characters such as the scales on the sides of body pointing backward and upward and the size of the head, this species may be placed in the *Calotes versicolor* group of species. It appears close to *C. versicolor* (Daudin) in having no fold or pit in front of the shoulder and in the presence of two separated spines above the tympanum. Another species of the *versicolor* group, *C. maria* Gray differs from *C. bhutanensis* in having no spine above tympanum and

possessing two parallel rows of compressed scales above tympanum. The new species differs from *C. versicolor* and other species of the group in having a row of erect scales on the sides of the neck, short snout, less swollen cheeks, convex optic region and the characteristic coloration.

A comparative table of measurements of body parts of *C. bhutanensis* and 7 specimens of *C. versicolor* from Darjeeling district in Eastern Himalaya is given here (Table 1). Further, a key differentiating the new species from other two related species is given below:

TABLE 1

Reg. Nos.	Measurements of <i>C. bhutanensis</i>	Measurements of 7 <i>C. versicolor</i> specimens from the E. Himalaya
	Holotype 22480	15640, 15219, 15222, 17794, 4585, 21038 (2 exs.)
Length of body (tip of the snout to vent)	61	50-87 (av. 67.7)
Length of tail (vent to tip)	135	115-235 (av. 179.8)
Head length (tip of the snout to tympanum)	14.6	12-25 (av. 18.6)
Head breadth of temporal region	10	9-16 (av. 11.5)
Diameters of eye	4	3-5 (av. 4)
Diameters of tympanum	2	2-4 (av. 2.7)
Length of fore limb	31	25-45 (av. 34)
Length of hind limb	47	42-74 (av. 57.8)
Snout to arm	25	16-42 (av. 30.4)
Axilla to groin	30	24-52 (av. 37.4)
Distance between two anterior corners of eyes	7.6	5.5-10 (av. 7.4)
Distance between tip of snout to anterior corner of eye	5.2	5-10 (av. 7)
Body length: tail	Less	More
Ant. corners of eyes: distance between anterior eye corner to snout	Longer	Almost equal
Head length: head breadth	Less	More

KEY FOR THE IDENTIFICATION OF *Calotes bhutanensis* AND ITS ALLIED SPECIES:

- II. Scales on the sides of the body pointing backward and upward.
- (a) Two separated spines above the tympanum.
1. No erect scale row by the side of the neck, snout long, colour brown *C. versicolor*
 2. One erect scale row by the sides of the neck, short snout, black variegated patches on the body *C. bhutanensis*
- (b) No spine above tympanum, two parallel rows of compressed scales above tympanum, colour green *C. maria*

Family COLUBRIDAE

***Amphiesma stolatus* (Linnaeus)**

1758. *Coluber stolatus* Linnaeus, *Syst. Nat.* 10th ed., p. 219.

Material: 1 ex., Samdrup Jongkhar (300 m), East Bhutan; 15 May, 1966.

Remarks: Body deep brownish, black cross bars intersected by two dorsolateral whitish stripes, at their point of intersection white dots prominent, in posterior part of body these stripes more prominent and cross bars gradually fade being confined as specks of black. Three bars from eye to upper jaw, one in front eye another obliquely behind and 3rd from lower edge of eye to the jaw.

Measurement and count: Length snout to vent 702 mm, tail 122 mm; ventral - 152, subcaudal - 56.

Family ELAPIDAE

***Ophiophagus hannah* (Cantor)**

1836. *Hamadryas hannah* Cantor, *Asiat. Research.* xix, p. 187, pls. 10-11.

Material: 1 ex., Rongtong (c. 2042 m), Manas Valley, East Bhutan; 2 April 1966.

Remarks: The colour scheme of the present specimen generally conforms to that of the adult specimens, but some additional observations on it may be mentioned here:

44 yellowish bars edged with black present on the body, anterior body scales brown with black restricted to the upper and anterior border of the scales; on the posterior part of the body and tail black predominates and gives a general blackish body colour.

Measurement and count: Length snout to vent 25 cm, tail 41 cm; ventral - 234, subcaudal - 90.